

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

FUJIFILM SONOSITE, INC.,)
Plaintiff,)
v.) C.A. No. _____
BUTTERFLY NETWORK, INC.,) **TRIAL BY JURY DEMANDED**
Defendant.)

COMPLAINT FOR PATENT INFRINGEMENT

1. Plaintiff, FUJIFILM Sonosite, Inc. (“Plaintiff” or “FUJIFILM Sonosite”) files this Complaint for patent infringement and demand for jury trial against Defendant Butterfly Network, Inc. (“Defendant” or “Butterfly”), and alleges as follows:

NATURE OF THE ACTION

2. This is an action for patent infringement under the Patent Laws of the United States, Title 35 United States Code (“U.S.C.”) against Butterfly, for infringement of U.S. Patent No. 6,901,157 (the “157 Patent”), U.S. Patent No. 9,538,985 (the “985 Patent”), U.S. Patent No. 7,867,168 (the “168 Patent”), U.S. Patent No. 7,169,108 (the “108 Patent”), U.S. Patent No. 8,861,822 (the “822 Patent”), U.S. Patent No. 8,360,981 (the “981 Patent”), and U.S. Patent No. 8,128,050 (the “050 Patent”) (collectively the “patents-in-suit”), which are attached as Exhibits A–G, respectively, and incorporated herein by reference, pursuant to 35 U.S.C. § 271, and to recover damages, attorneys’ fees, and costs.

THE PARTIES

3. Plaintiff FUJIFILM Sonosite is a corporation organized under the laws of the State of Delaware. FUJIFILM Sonosite has its principal place of business at 21919 30th Drive SE Bothell, Washington 98021-3904.

4. Upon information and belief, Defendant Butterfly is a corporation organized under the laws of the State of Delaware, with its principal place of business at 530 Old Whitfield Street, Guilford, Connecticut 06437.

JURISDICTION AND VENUE

5. This action arises under the patent laws of the United States, 35 U.S.C. § 101, *et seq.* This Court's jurisdiction over this action is proper under relevant statutes, including 35 U.S.C. § 271, *et seq.*, 28 U.S.C. § 1331 (federal question jurisdiction), and 28 U.S.C. § 1338 (jurisdiction over patent actions).

6. This Court has general personal jurisdiction over Defendant at least because Defendant is incorporated in Delaware.

7. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b).

FACTUAL ALLEGATIONS

8. FUJIFILM Sonosite is one of the nation's leading providers of medical point-of-care ultrasound ("POCUS") systems. FUJIFILM Sonosite was founded when the U.S. Department of Defense awarded a DARPA grant to its parent company at the time. The mission was to create an ultrasound machine portable and rugged enough to be carried into battle and brought to a trauma patient's side. It took over a decade of technical development and expertise in leveraging digital ultrasound and integrated circuit technology to complete the project, but the result was FUJIFILM Sonosite's first POCUS system—the Sonosite 180. In the early 2000s, FUJIFILM Sonosite developed innovative ultrasound systems like the MicroMaxx, NanoMaxx, M-Turbo, and S-Series. These systems revolutionized the healthcare landscape by helping physicians and hospitals improve the patient experience, creating the market for POCUS systems in the process.

9. Since the company's pioneering days, FUJIFILM Sonosite has pushed a progressive product line, educational programs, and advocacy for a broader understanding of

ultrasound's many benefits. As a result, FUJIFILM Sonosite became the most adopted and most considered POCUS brand. In 2017, FUJIFILM Sonosite celebrated its 100,000th system installed worldwide, and remains focused on the same mission that started the company: helping clinicians bring ultrasound to any patient, anywhere, anytime.

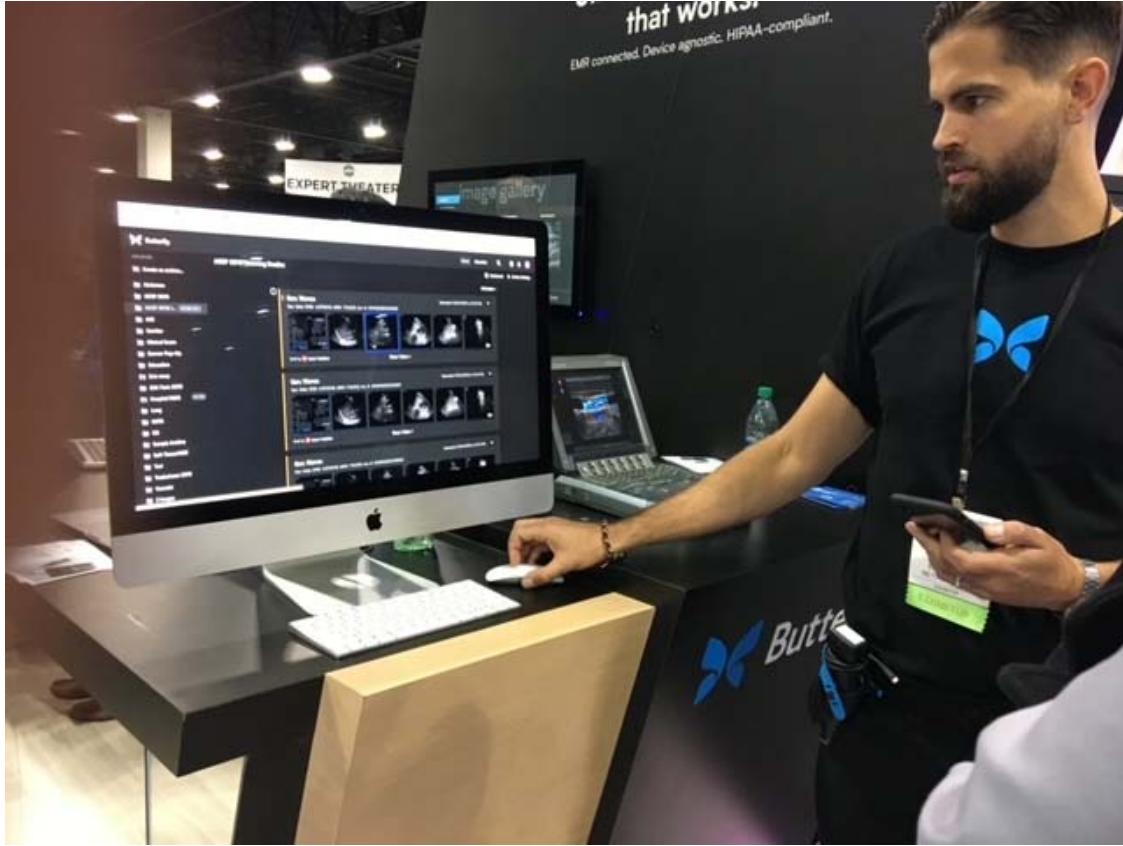
10. Over the years, FUJIFILM Sonosite has expended significant resources on research, development, and innovation in the ultrasound imaging space, resulting in ultrasound systems exhibiting easier handling and operation and improved ultrasound imaging performance. FUJIFILM Sonosite has secured patent protection to protect these extensive investments in research, development, and innovation. These include the patents-in-suit, which provide improvements in various aspects of POCUS systems and technologies.

11. Defendant has without authorization made, used, marketed, distributed, offered for sale, and/or sold POCUS systems, including, without limitation, the Butterfly "iQ" and "iQ+" ultrasound probes, and a support case for transporting an iQ or iQ+ ultrasound probe (the "Butterfly Hard Case"). Furthermore, Defendant provides mobile application software (the "Butterfly Mobile Application") that allows an iQ or an iQ+ ultrasound probe to interface with a mobile device to process and display real-time ultrasound images. Defendant's iQ and iQ+ ultrasound probes, Butterfly Hard Case, and the Butterfly Mobile Application, and any other like products and services, are collectively the "Accused Products."

12. On information and belief, Defendant has had knowledge of FUJIFILM Sonosite's patents, including the patents-in-suit, since at least as early as September 30, 2014. During the prosecution of Defendant's United States Patent Application No. 14/337,813 (the "'813 Application"), Defendant submitted as part of its disclosures to the USPTO a list of patents Defendant knew about related to the '813 Application. The list of patents Defendant provided to

the USPTO included two of the patents-in-suit—the '168 Patent and the '050 Patent. The list of patents Defendant sent to the USPTO also included at least four other patents owned by Plaintiff, including United States Patent Nos. 6,364,839, 7,996,688, 8,066,642, and 8,213,467.

13. Furthermore, on information and belief, and as demonstrated at least in the photo reproduced below, Defendant's employees have knowledge of Plaintiff's products covered by the patents-in-suit, and have tested and demonstrated those products, including at least at trade shows and to customers. On information and belief, Defendant copied aspects of Plaintiff's patented technologies by studying Plaintiff's patented products as part of developing the Accused Products. Additionally, the user manuals for Plaintiff's patented products, including the user manual for the FUJIFILM Sonosite M-Turbo model product shown in the photograph below, include reference to certain of the patents-in-suit. In particular, the user manual for the FUJIFILM Sonosite M-Turbo model product includes reference to at least the '108 Patent and the '822 Patent. On information and belief, this further evidences Defendant's knowledge of, and ultimate adoption of, Plaintiff's patents and patented innovations.



14. FUJIFILM Sonosite is the owner of the patents-in-suit with all substantial rights, including the exclusive right to enforce, sue, and recover damages for past and future infringements. The patents-in-suit are described briefly as follows:

The '157 Patent

15. On May 31, 2005, the United States Patent and Trademark Office (“USPTO”) duly and legally issued the '157 Patent, entitled “ULTRASONIC DIAGNOSTIC APPARATUS” after a full and fair examination. The '157 Patent is attached hereto as Exhibit A.

16. Claim 1 of the '157 Patent states:

“1. An ultrasonic diagnostic apparatus comprising:

an ultrasonic transmitting and receiving unit for transmitting ultrasonic waves to an object to be inspected and receiving echo waves reflected from the object;

an image processing unit for executing image processing of image data, which is obtained on the basis of the echo waves received by said ultrasonic

transmitting and receiving unit, by using image processing condition parameters;

an information input unit to be employed for inputting information of object concerned with the object to be inspected;

a parameter memory unit for storing the image processing condition parameters to be used in the image processing unit, in correspondence with the information of object;

a control unit for reading out the image processing condition parameters, which correspond to the information of object input by employing the information input unit, from said parameter memory unit so as to supply the read-out parameters to the image processing unit;

and a display unit for displaying an image on the basis of the image data subjected to the image processing in the image processing unit.” *See Exhibit A.*

17. Claims 1–4 and 6–10 of the ’157 Patent recite an apparatus for generating ultrasound images that includes a transmission/reception device and a display device.

The ’985 Patent

18. On January 10, 2017, the USPTO duly and legally issued the ’985 Patent, entitled “HAND-HELD MEDICAL IMAGING SYSTEM WITH IMPROVED USER INTERFACE FOR DEPLOYING ON-SCREEN GRAPHICAL TOOLS AND ASSOCIATED APPARATUSES AND METHODS” after a full and fair examination. The ’985 Patent is attached hereto as Exhibit B.

19. Claim 1 of the ’985 Patent states:

“1. A portable ultrasound system, comprising a hand-held base unit that includes:

a touchscreen display; and

a programmable processor configured to execute instructions that cause the processor to produce a display on the touchscreen display, including—

 a first control area having a number of graphical tools that can each be selectively activated by a user,

 a second control area that is accessible by a hand of the user that is holding the portable ultrasound system, wherein the second control area includes

a plurality of controls that can be selectively activated by a thumb of the user to select an attribute of a selected graphical tool, and

an active image area in which an image of a patient obtained from an ultrasound scan is displayed and at which the selected one of the graphical tools can be overlaid onto the image with the user-selected tool attribute.”
See Exhibit B.

20. Claim 1 of the '985 Patent recites a portable ultrasound system having a number of user-activated graphical tools.

The '168 Patent

21. On January 11, 2011, the USPTO duly and legally issued the '168 Patent, entitled “ULTRASONIC TRANSDUCER HAVING DISTRIBUTED WEIGHT PROPERTIES” after a full and fair examination. The '168 Patent is attached hereto as Exhibit C.

22. Claim 1 of the '168 Patent states:

“1. A system comprising:

an ultrasound transducer assembly including an ultrasound transducer array and signal processing circuitry coupled to said transducer array operable to process analog signals from said transducer array and provide digital information there from;

a main processing unit separate from said ultrasound transducer assembly and in communication therewith operable to receive said digital information from said ultrasound transducer assembly; and

a digital data cable coupled between said ultrasound transducer assembly and said main processing unit carrying said digital information there between;

wherein said system is powered by a battery power source, wherein portions of the battery power source are distributed between the ultrasound transducer assembly and the main processing unit.” *See Exhibit C.*

23. Claims 1, 4, and 5 of the '168 Patent recite a system including an ultrasound transducer and a processing unit coupled via a digital cable.

The '108 Patent

24. On January 30, 2017, the USPTO duly and legally issued the '108 Patent, entitled "CW BEAM FORMER IN AN ASIC" after a full and fair examination. The '108 Patent is attached hereto as Exhibit D.

25. Claim 1 of the '108 Patent states:

"1. An ultrasound system application specific integrated circuit (US-ASIC) having at least one beam former, a transducer controller, one or more digital signal processor(s), and a plurality of input/output channels for linking to at least one memory means, a power control system, a transducer and a user interface." *See* Exhibit D.

26. Claims 1–4 of the '108 Patent recite an ultrasound system application specific integrated circuit ("US-ASIC").

The '822 Patent

27. On October 14, 2014, the USPTO duly and legally issued the '822 Patent, entitled "SYSTEMS AND METHODS FOR ENHANCED MAGING OF OBJECTS WITHIN AN IMAGE" after a full and fair examination. The '822 Patent is attached hereto as Exhibit E.

28. Claim 1 of the '822 Patent states:

"1. A method for operating an ultrasound machine to produce an ultrasound image including an image of an interventional instrument, comprising:

establishing a first ultrasound imaging signature having one or more imaging parameters including a transmit waveform, ratio of transmit to receive beamformed lines, imaging steering angle, receive line density, number of focal zones, quadrature bypass filter type and coefficients, compression curve and speckle reduction parameters selected to produce a high quality image of tissue within a volume to be imaged;

establishing a second ultrasound imaging signature having one or more imaging parameters including a transmit waveform, ratio of transmit to receive beamformed lines, imaging steering angle, receive line density, number of focal zones, quadrature bypass filter type and coefficients, compression curve and speckle reduction parameters selected to produce a high quality image of an instrument within the volume to be imaged;

generating a first frame using the image data resulting from application of the first ultrasound imaging signature; and

generating a second frame using the image data resulting from application of the second ultrasound imaging signature;

detecting pixels in the second frame that correspond to the interventional instrument;

automatically determining a mask of pixels that correspond to the location of the interventional instrument;

blending pixels from the first frame and the second frame in a region that is inside the mask and using pixels from the first frame in a region that is outside the mask to form a blended final ultrasound image; and

producing a graphic indication on the blended final ultrasound image that indicates the boundaries of a coverage area in the blended final ultrasound image where one or more of the imaging parameters of the second ultrasound imaging signature is selected to produce a high quality image of the interventional instrument.” *See Exhibit E.*

29. Claims 1–5 of the ’822 Patent recite a method for operating an ultrasound machine to produce an ultrasound image including an image of an interventional instrument.

The ’981 Patent

30. On January 29, 2013, the USPTO duly and legally issued the ’981 Patent, entitled “ULTRASONIC DIAGNOSTIC APPARATUS” after a full and fair examination. The ’981 Patent is attached hereto as Exhibit F.

31. Claim 1 of the ’981 Patent states:

“1. An ultrasonic diagnostic apparatus comprising:

an ultrasonic probe including plural ultrasonic transducers for transmitting ultrasonic waves toward an object to be inspected according to drive signals and receiving ultrasonic echoes propagating from the object to output reception signals;

an image generating unit for supplying the drive signals to said ultrasonic probe and processing the reception signals outputted from said ultrasonic probe to generate image signals representing ultrasonic images;

a display unit including a display of an impulse drive type, in which a blanking period within one field period is variable, for displaying the ultrasonic images based on the image signals generated by said image generating unit, and an adjustment circuit for adjusting a ratio of the blanking period to an image display period within one field period in said display; and

a control unit for controlling said adjustment circuit to adjust the ratio of the blanking period to the image display period within one field period in said display according to at least one of a selected part to be examined and a frame rate of the image signals generated by said image generating unit.” *See Exhibit F.*

32. Claims 1 and 3 of the ’981 Patent recite a diagnostic apparatus comprising an ultrasonic probe, ultrasonic transducers, an image generating unit, a display unit, an adjustment circuit, and a control unit used to generate and display ultrasonic image signals.

The ’050 Patent

33. On March 6, 2012, the USPTO duly and legally issued the ’050 Patent, entitled “ULTRASOUND SCANNER SUPPORT DEVICES” after a full and fair examination. The ’050 Patent is attached hereto as Exhibit G.

34. Claim 1 of the ’050 Patent states:

“1. An ultrasound scanner support device, comprising:

a body having a first surface and a second surface opposite the first surface;

a recess having an interior surface between the first and second surfaces and a sidewall extending from the first surface to the interior surface; and

a peripheral channel extending around a perimeter of the body and having a curve at each directional change, wherein each curve has a radius of at least approximately 0.25 inch.” *See Exhibit G.*

35. Claims 1, 5, 7, 9, 10, and 12 of the ’050 Patent recite an ultrasound scanner support device including a peripheral channel extending around a perimeter of the body and having a curve at each directional change, wherein each curve has a radius of at least approximately 0.25 inch.

Count I: Infringement of the '157 patent

36. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

37. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claims 1–4 and 6–10 of the '157 Patent in violation of 35 U.S.C. § 271(a).

38. On information and belief, Defendant makes, has made, offers to sell, sells and/or uses the Accused Products.

39. On information and belief, the Accused Products use the ultrasonic diagnostic apparatus claimed in the '157 Patent. The Accused Products allow an ultrasound probe to interface with a mobile device to process and display real-time ultrasound images as described in and claimed by the '157 Patent. *See Exhibit H.* Thus, Defendant's Accused Products infringe the '157 Patent.

40. For example, use of the Accused Products requires connecting an iQ or iQ+ ultrasound probe to the Butterfly Mobile Application running on a mobile device, and then acquiring and processing ultrasound information with the iQ/iQ+ ultrasound probe connected to the Butterfly Mobile Application. Thus, on information and belief, Defendant directly infringes the claimed method for operating an ultrasound machine as described in the '157 Patent by making, having made, offering to sell, selling and/or using the Accused Products including the claimed combination of a transmission/reception device and display device. In particular, Defendant infringes the '157 Patent at least when its employees demonstrate the Accused Products, and/or when its employees conduct testing on the Accused Products. A non-limiting and exemplary claim chart comparing Accused Products (the iQ and iQ+ ultrasound probes, and the Butterfly Mobile Application) to Claims 1–4 and 6–10 of the '157 Patent is attached hereto as Exhibit H.

41. On information and belief, Defendant possesses knowledge of, and is aware of, the '157 Patent, or became aware of this patent at the time of filing this lawsuit.

42. On information and belief, Defendant indirectly infringes, literally and/or under the doctrine of equivalents, at least Claims 1–4 and 6–10 of the '157 Patent.

43. On information and belief, Defendant is liable for inducing infringement of the '157 Patent under 35 U.S.C. § 271(b) by having knowledge of the '157 Patent and knowingly causing or intending to cause, and continuing to knowingly cause or intend to cause, direct infringement of the '157 Patent, with specific intent, by its customers.

44. Specifically, Defendant induces infringement of the '157 Patent by, inter alia, training its customers on the use of the Accused Products and/or promotion and/or sales of the Accused Products to Defendant's customers. Defendant's customers for the Accused Products directly infringe the '157 Patent by using the Accused Products as instructed by Defendant.

45. For example, Defendant induces infringement of the '157 Patent under 35 U.S.C § 271(b) because Defendant has knowledge that end users of the Accused Products use Defendant's infringing Accused Products in the United States, and because Defendant encourages such acts resulting in direct patent infringement, by, inter alia, directing customers to connect the iQ/iQ+ ultrasound probe to the Butterfly Mobile Application running on a mobile device for ultrasound image processing and display, as claimed in the '157 Patent. On information and belief, Defendant provides demonstrations and user manuals to Defendant's customers directing customers to infringe.

46. On information and belief, despite knowing that its actions constitute induced infringement of the '157 Patent and/or despite knowing that there was a high likelihood that its actions constitute induced infringement of this Patent, Defendant nevertheless continues its

inducing and infringing actions, and continues to make, use, sell, and/or offer for sale the Accused Products.

47. Defendant is liable for contributory infringement of the '157 Patent under 35 U.S.C § 271(c) by having sold or offered to sell, and continuing to sell or offer for sale the Accused Products within the United States because the Accused Products constitute a material part of the invention embodied in the '157 Patent, which Defendant knows to be especially made and/or especially adapted for use in infringement of the '157 Patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use.

48. Specifically, Defendant contributes to infringement of the '157 Patent by, inter alia, promotion, and/or sales of the infringing Accused Products to Defendant's customers, and knowingly instructing those customers to use the Accused Products to infringe the '157 Patent. Those customers directly infringe the '157 Patent by using the Accused Products.

49. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '157 Patent, pursuant to 35 U.S.C. § 271.

50. Defendant has committed these acts of infringement without license or authorization.

51. As a result of Defendant's infringement of the '157 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

52. As a result of Defendant's infringement of the '157 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

53. Upon information and belief, Defendant has known of the '157 Patent at a date prior to the filing of this Complaint, and has known of the '157 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant has continued its infringing activities. Upon information and belief, Defendant's infringement of the '157 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

54. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

Count II: Infringement of the '985 patent

55. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

56. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claim 1 of the '985 Patent in violation of 35 U.S.C. § 271(a).

57. On information and belief, Defendant makes, has made, offers to sell, sells, and/or uses the Accused Products.

58. On information and belief, the Accused Products use the portable ultrasound system claimed in the '985 Patent. *See Exhibit I.* On information and belief, the Accused Products allow an iQ or an iQ+ ultrasound probe to interface with a mobile device to process and display real-time ultrasound images as claimed in the '985 Patent. Thus, Defendant's Accused Products infringe the '985 Patent.

59. For example, on information and belief, Defendant directly infringes the portable ultrasound system as claimed in the '985 Patent by making, having made, offering to sell, selling and/or using Accused Products including the control interface claimed in the '985 Patent. In particular, on information and belief, Defendant directly infringes the '985 Patent at least when its employees demonstrate the Accused Products, and/or when its employees conduct testing on the

Accused Products. A non-limiting and exemplary claim chart comparing Accused Products (the iQ and iQ+ ultrasound probes, and the Butterfly Mobile Application) to Claim 1 of the '985 Patent is attached hereto as Exhibit I.

60. On information and belief, Defendant possesses knowledge of, and is aware of, the '985 Patent, or became aware of this Patent at the time of filing this lawsuit.

61. On information and belief, Defendant indirectly infringes, literally and/or under the doctrine of equivalents, at least Claim 1 of the '985 Patent.

62. On information and belief, Defendant is liable for inducing infringement of the '985 Patent under 35 U.S.C. § 271(b) by having knowledge of the '985 Patent and knowingly causing or intending to cause, and continuing to knowingly cause or intend to cause, direct infringement of the '985 Patent, with specific intent, by its customers.

63. Specifically, Defendant induces infringement of the '985 Patent by, inter alia, training its customers on the use of the Accused Products and/or promotion and/or sales of the Accused Products to Defendant's customers. Defendant's customers for the Accused Products directly infringe the '985 Patent by using the Accused Products as instructed by Defendant.

64. For example, Defendant induces infringement of the '985 Patent under 35 U.S.C § 271(b) because Defendant has knowledge that end users of the Accused Products use Defendant's infringing Accused Products in the United States, and because Defendant encourages such acts resulting in direct patent infringement, by, inter alia, connecting the Accused Products to mobile devices using the Butterfly Mobile Application for image display as claimed in the '985 Patent. On information and belief, Defendant provides demonstrations and user manuals to Defendant's customers, directing its customers to infringe.

65. On information and belief, despite knowing that its actions constitute induced infringement of the '985 Patent and/or despite knowing that there was a high likelihood that its actions constitute induced infringement of this Patent, Defendant nevertheless continues its inducing and infringing actions, and continues to make, use, sell, and/or offer for sale the Accused Products.

66. Defendant is liable for contributory infringement of the '985 Patent under 35 U.S.C § 271(c) by having sold or offered to sell, and continuing to sell or offer for sale the Accused Products within the United States because the Accused Products constitute a material part of the invention embodied in the '985 Patent, which Defendant knows to be especially made and/or especially adapted for use in infringement of the '985 Patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use.

67. Specifically, Defendant contributes to infringement of the '985 Patent by, *inter alia*, promotion, and/or sales of the infringing Accused Products to Defendant's customers, and knowingly instructing those customers to connect the Accused Products to mobile devices using the Butterfly Mobile Application for image display as claimed in the '985 Patent. Those customers directly infringe the '985 Patent by using the Accused Products as instructed.

68. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '985 Patent, pursuant to 35 U.S.C. § 271.

69. Defendant has committed these acts of infringement without license or authorization.

70. As a result of Defendant's infringement of the '985 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

71. As a result of Defendant's infringement of the '985 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

72. Upon information and belief, Defendant knew of the '985 Patent at a date prior to the filing of this Complaint, and knew of the '985 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant continued its infringing activities. Upon information and belief, Defendant's infringement of the '985 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

73. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

Count III: Infringement of the '168 Patent

74. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

75. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claims 1, 4, and 5 of the '168 Patent.

76. On information and belief, Defendant makes, has made, offers to sell, sells, and/or uses the Accused Products.

77. For example, use of the Accused Products requires connecting an iQ or iQ+ ultrasound probe to the Butterfly Mobile Application running on a mobile device, and then acquiring and processing ultrasound information with the iQ/iQ+ ultrasound probe connected to the Butterfly Mobile Application. Thus, on information and belief, Defendant directly infringes the ultrasound diagnostic apparatus of the '168 Patent by making, having made, offering to sell, selling and/or using the Accused Products including an ultrasound transducer assembly separate from the main processing unit as claimed in the '168 Patent. In particular, Defendant directly

infringes the '168 Patent at least when its employees demonstrate the Accused Products, and/or when its employees conduct testing on the Accused Products. A non-limiting and exemplary claim chart comparing Accused Products (the iQ and iQ+ ultrasound probes, and the Butterfly Mobile Application) to Claims 1, 4, and 5 of the '168 Patent is attached hereto as Exhibit J.

78. On information and belief, Defendant possesses knowledge of, and is aware of, the '168 Patent, or became aware of this Patent at the time of filing this lawsuit.

79. On information and belief, Defendant indirectly infringes, literally and/or under the doctrine of equivalents, at least Claims 1, 4, and 5 of the '168 Patent.

80. On information and belief, Defendant is liable for inducing infringement of the '168 Patent under 35 U.S.C. § 271(b) by having knowledge of the '168 Patent and knowingly causing or intending to cause, and continuing to knowingly cause or intend to cause, direct infringement of the '168 Patent, with specific intent, by its customers.

81. Specifically, Defendant induces infringement of the '168 Patent by, inter alia, training its customers on the use of the Accused Products and/or promotion and/or sales of the Accused Products to Defendant's customers. Defendant's customers for the Accused Products directly infringe the '168 Patent by using the Accused Products as instructed by Defendant.

82. For example, Defendant induces infringement of the '168 Patent under 35 U.S.C § 271(b) because Defendant has knowledge that end users of the Accused Products use Defendant's infringing Accused Products in the United States, and because Defendant encourages such acts resulting in direct patent infringement, by, inter alia, connecting the Accused Products to mobile devices using the Butterfly Mobile Application for processing as claimed in the '168 Patent. On information and belief, Defendant provides demonstrations and user manuals to Defendant's customers, instructing those customers to infringe.

83. On information and belief, despite knowing that its actions constitute induced infringement of the '168 Patent and/or despite knowing that there was a high likelihood that its actions constitute induced infringement of this Patent, Defendant nevertheless continues its inducing and infringing actions, and continues to make, use, sell, and/or offer for sale the Accused Products.

84. Defendant is liable for contributory infringement of the '168 Patent under 35 U.S.C § 271(c) by having sold or offered to sell, and continuing to sell or offer for sale the Accused Products within the United States because the Accused Products constitute a material part of the invention embodied in the '168 Patent, which Defendant knows to be especially made and/or especially adapted for use in infringement of the '168 Patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use.

85. Specifically, Defendant contributes to infringement of the '168 Patent by, *inter alia*, promotion, and/or sales of the infringing Accused Products to Defendant's customers, and knowingly instructing those customers to connect the Accused Products to mobile devices using the Butterfly Mobile Application for processing as claimed in the '168 Patent. Those customers directly infringe the '168 Patent by using the Accused Products as instructed.

86. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '168 Patent, pursuant to 35 U.S.C. § 271.

87. Defendant has committed these acts of infringement without license or authorization.

88. As a result of Defendant's infringement of the '168 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

89. As a result of Defendant's infringement of the '168 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

90. Upon information and belief, Defendant has known of the '168 Patent at a date prior to the filing of this Complaint, and has known of the '168 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant has continued its infringing activities. Upon information and belief, Defendant's infringement of the '168 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

91. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

Count IV: Infringement of the '108 Patent

92. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

93. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claims 1–4 of the '108 Patent in violation of 35 U.S.C. § 271(a).

94. On information and belief, Defendant makes, has made, offers to sell, sells, and/or uses the Accused Products.

95. On information and belief, the Accused Products integrate certain ultrasound system functional elements onto a single US-ASIC as claimed in the '108 Patent. Thus, Defendant's Accused Products infringe the '108 Patent.

96. For example, on information and belief, Defendant directly infringes the US-ASIC as claimed in the '108 Patent by, among other things, making, having made, offering to sell, selling, testing and/or using the Accused Products having certain ultrasound system functional elements integrated onto a single ASIC. Further, on information and belief, Defendant directly infringes

the '108 Patent because it includes the US-ASIC as claimed in the '108 Patent in the Accused Products. In particular, Defendant infringes the '108 Patent at least when its employees use the claimed US-ASIC when they test, demonstrate, or otherwise use the Accused Products. A non-limiting and exemplary claim chart comparing Accused Products (the iQ and iQ+ ultrasound probes) to Claims 1–4 of the '108 Patent is attached hereto as Exhibit K.

97. On information and belief, Defendant possesses knowledge of, and is aware of, the '108 Patent, or became aware of this Patent at the time of filing this lawsuit.

98. On information and belief, Defendant indirectly infringes, literally and/or under the doctrine of equivalents, at least Claims 1–4 of the '108 Patent.

99. On information and belief, Defendant is liable for inducing infringement of the '108 Patent under 35 U.S.C. § 271(b) by having knowledge of the '108 Patent and knowingly causing or intending to cause, and continuing to knowingly cause or intend to cause, direct infringement of the '108 Patent, with specific intent, by its customers.

100. Specifically, Defendant induces infringement of the '108 Patent by, inter alia, training its customers on the use of the Accused Products and/or promotion and/or sales of the Accused Products to Defendant's customers. Defendant's customers for the Accused Products directly infringe the '108 Patent by using the Accused Products as instructed by Defendant.

101. For example, Defendant induces infringement of the '108 Patent under 35 U.S.C. § 271(b) because Defendant has knowledge that end users of the Accused Products use Defendant's infringing Accused Products in the United States, and because Defendant encourages such acts resulting in direct patent infringement, by, inter alia, directing customers to connect the iQ/iQ+ ultrasound probe having the US-ASIC claimed in the '108 Patent to the Butterfly Mobile Application running on a mobile device for ultrasound image processing and display. On

information and belief, Defendant provides demonstrations and user manuals to Defendant's customers instructing Defendant's customers to infringe.

102. On information and belief, despite knowing that its actions constitute induced infringement of the '108 Patent and/or despite knowing that there was a high likelihood that its actions constitute induced infringement of this Patent, Defendant nevertheless continues its inducing and infringing actions, and continues to make, use, offer to sell, and sell, the Accused Products.

103. Defendant is liable for contributory infringement of the '108 Patent under 35 U.S.C § 271(c) by having sold or offered to sell, and continuing to sell or offer for sale the Accused Products within the United States because the Accused Products constitute a material part of the invention embodied in the '108 Patent, which Defendant knows to be especially made and/or especially adapted for use in infringement of the '108 Patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use.

104. Specifically, Defendant contributes to infringement of the '108 Patent by, inter alia, promotion, and/or sales of Accused Products including the US-ASIC claimed in the '108 Patent to Defendant's customers. Those customers directly infringe the '108 Patent by using the Accused Products.

105. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '108 Patent, pursuant to 35 U.S.C. § 271.

106. Defendant has committed these acts of infringement without license or authorization.

107. As a result of Defendant's infringement of the '108 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

108. As a result of Defendant's infringement of the '108 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

109. Upon information and belief, Defendant has known of the '108 Patent at a date prior to the filing of this Complaint, and has known of the '108 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant has continued its infringing activities. Upon information and belief, Defendant's infringement of the '108 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

110. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

Count V: Infringement of the '822 Patent

111. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

112. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claims 1–5 of the '822 Patent.

113. On information and belief, Defendant makes, has made, offers to sell, sells and/or uses the Accused Products.

114. On information and belief, the Accused Products use the method for operating an ultrasound machine claimed in the '822 Patent. The Accused Products produce an ultrasound image that includes an image of an interventional instrument via the Needle Viz imaging tool

offered on the Butterfly Mobile Application. *See Exhibit L.* Thus, Defendant's Accused Products infringe the '822 Patent.

115. For example, use of the Accused Products requires connecting an iQ or iQ+ ultrasound probe to the Butterfly Mobile Application running on a mobile device, and then acquiring and processing ultrasound information with the iQ/iQ+ ultrasound probe connected to the Butterfly Mobile Application. Thus, on information and belief, Defendant directly infringes the claimed method for operating an ultrasound machine to produce an ultrasound image including an image of an interventional instrument as described in the '822 Patent by making, having made, offering to sell, selling and/or using the Accused Products including the claimed production of a high quality image of the interventional instrument. In particular, Defendant directly infringes the '822 Patent at least when its employees demonstrate the Accused Products, and/or when its employees conduct testing on the Accused Products. A non-limiting and exemplary claim chart comparing Accused Products (the iQ and iQ+ ultrasound probes, and the Butterfly Mobile Application) to Claims 1–5 of the '822 Patent is attached hereto as Exhibit L.

116. On information and belief, Defendant possesses knowledge of, and is aware of, the '822 Patent, or became aware of this Patent at the time of filing this lawsuit.

117. On information and belief, Defendant indirectly infringes, literally and/or under the doctrine of equivalents, at least Claims 1–5 of the '822 Patent.

118. On information and belief, Defendant is liable for inducing infringement of the '822 Patent under 35 U.S.C. § 271(b) by having knowledge of the '822 Patent and knowingly causing or intending to cause, and continuing to knowingly cause or intend to cause, direct infringement of the '822 Patent, with specific intent, by its customers.

119. Specifically, Defendant induces infringement of the '822 Patent by, inter alia, training its customers on the use of the Accused Products and/or promotion and/or sales of the Accused Products to Defendant's customers. Defendant's customers for the Accused Products directly infringe the '822 Patent by using the Accused Products as instructed by Defendant.

120. For example, Defendant induces infringement of the '822 Patent under 35 U.S.C § 271(b) because Defendant has knowledge that end users of the Accused Products use Defendant's infringing Accused Products in the United States, and because Defendant encourages such acts resulting in direct patent infringement, by, inter alia, using the Accused Products to display a high quality ultrasound image of an interventional instrument as claimed in the '822 Patent. On information and belief, Defendant provides demonstrations and user manuals to Defendant customers.

121. On information and belief, despite knowing that its actions constitute induced infringement of the '822 Patent and/or despite knowing that there was a high likelihood that its actions constitute induced infringement of this Patent, Defendant nevertheless continues its inducing and infringing actions, and continues to make, use, sell, and/or offer for sale the Accused Products.

122. Defendant is liable for contributory infringement of the '822 Patent under 35 U.S.C § 271(c) by having sold or offered to sell, and continuing to sell or offer for sale the Accused Products within the United States because the Accused Products constitute a material part of the invention embodied in the '822 Patent, which Defendant knows to be especially made and/or especially adapted for use in infringement of the '822 Patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use.

123. Specifically, Defendant contributes to infringement of the '822 Patent by, inter alia, promotion, and/or sales of the infringing Accused Products to Defendant's customers, and knowingly instructing those customers to use the Accused Products to display a high quality ultrasound image of an interventional instrument as claimed in the '822 Patent. Those customers directly infringe the '822 Patent by using the Accused Products as instructed.

124. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '822 Patent, pursuant to 35 U.S.C. § 271.

125. Defendant has committed these acts of infringement without license or authorization.

126. As a result of Defendant's infringement of the '822 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

127. As a result of Defendant's infringement of the '822 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

128. Upon information and belief, Defendant has known of the '822 Patent at a date prior to the filing of this Complaint, and has known of the '822 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant has continued its infringing activities. Upon information and belief, Defendant's infringement of the '822 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

129. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

Count VI: Infringement of the '981 Patent

130. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

131. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claims 1 and 3 of the '981 Patent in violation of 35 U.S.C. § 271(a).

132. On information and belief, Defendant makes, has made, offers to sell, sells and/or uses the Accused Products.

133. On information and belief, the Accused Products use the ultrasonic diagnostic apparatus claimed in the '981 Patent. The Accused Products allow an ultrasound probe to interface with a mobile device to process and display real-time ultrasound images including the claimed impulse drive display. *See Exhibit M.* Thus, Defendant's Accused Products infringe the '981 Patent.

134. For example, use of the Accused Products requires connecting an iQ or iQ+ ultrasound probe to the Butterfly Mobile Application running on a mobile device, and then acquiring and processing ultrasound information with the iQ/iQ+ ultrasound probe connected to the Butterfly Mobile Application. Thus, on information and belief, Defendant directly infringes the claimed ultrasound apparatus as described in the '981 Patent by making, having made, offering to sell, selling, and/or using the Accused Products including the claimed impulse drive display. In particular, Defendant infringes the '981 Patent at least when its employees demonstrate the Accused products, and/or when its employees conduct testing on the Accused Products. A non-limiting and exemplary claim chart comparing Accused Products (the iQ and iQ+ ultrasound probes, and the Butterfly Mobile Application) to Claims 1 and 3 of the '981 Patent is attached hereto as Exhibit M.

135. On information and belief, Defendant possesses knowledge of, and is aware of, the '981 Patent, or became aware of this Patent at the time of filing this lawsuit.

136. On information and belief, Defendant indirectly infringes, literally and/or under the doctrine of equivalents, at least Claims 1 and 3 of the '981 Patent.

137. On information and belief, Defendant is liable for inducing infringement of the '981 Patent under 35 U.S.C. § 271(b) by having knowledge of the '981 Patent and knowingly causing or intending to cause, and continuing to knowingly cause or intend to cause, direct infringement of the '981 Patent, with specific intent, by its customers.

138. Specifically, Defendant induces infringement of the '981 Patent by, inter alia, training its customers on the use of the Accused Products and/or promotion and/or sales of the Accused Products to Defendant's customers. Defendant's customers for the Accused Products directly infringe the '981 Patent by using the Accused Products as instructed by Defendant.

139. For example, Defendant induces infringement of the '981 Patent under 35 U.S.C § 271(b) because Defendant has knowledge that end users of the Accused Products use Defendant's infringing Accused Products in the United States, and because Defendant encourages such acts resulting in direct patent infringement, by, inter alia, instructing customers to use the Accused Products to display a high quality ultrasound image of an interventional instrument as claimed in the '981 Patent. On information and belief, Defendant provides demonstrations and user manuals directing Defendant's customers to infringe.

140. On information and belief, despite knowing that its actions constitute induced infringement of the '981 Patent and/or despite knowing that there was a high likelihood that its actions constitute induced infringement of this Patent, Defendant nevertheless continues its

inducing and infringing actions, and continues to make, use, sell, and/or offer for sale the Accused Products.

141. Defendant is liable for contributory infringement of the '981 Patent under 35 U.S.C § 271(c) by having sold or offered to sell, and continuing to sell or offer for sale the Accused Products within the United States because the Accused Products constitute a material part of the invention embodied in the '981 Patent, which Defendant knows to be especially made and/or especially adapted for use in infringement of the '981 Patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use.

142. Specifically, Defendant contributes to infringement of the '981 Patent by, inter alia, promotion, and/or sales of the infringing Accused Products to Defendant's customers, and knowingly instructing those customers to use the Accused Products to display a high quality ultrasound image of an interventional instrument as claimed in the '981 Patent. Those customers directly infringe the '981 Patent by using the Accused Products as instructed.

143. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '981 Patent, pursuant to 35 U.S.C. § 271.

144. Defendant has committed these acts of infringement without license or authorization.

145. As a result of Defendant's infringement of the '981 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

146. As a result of Defendant's infringement of the '981 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

147. Upon information and belief, Defendant has known of the '981 Patent at a date prior to the filing of this Complaint, and has known of the '981 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant has continued its infringing activities. Upon information and belief, Defendant's infringement of the '981 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

148. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

Count VII: Infringement of the '050 Patent

149. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs.

150. On information and belief, Defendant directly infringes, literally and/or under the doctrine of equivalents, at least Claims 1, 5, 7, 9, 10, and 12 of the '050 Patent in violation of 35 U.S.C. § 271(a).

151. On information and belief, Defendant makes, has made, offers to sell, sells, and/or uses ultrasound scanner support devices, such as the "Butterfly Hard Case" (one of the Accused Products). On information and belief, the accused Butterfly Hard Case includes the claimed ultrasound scanner support device. *See Exhibit N.* Thus, Defendant's Accused Products infringe the '050 Patent.

152. For example, on information and belief, Defendant directly infringes the ultrasound scanner support device as claimed in the '050 Patent, by, among other things, making, having made, offering to sell, selling and/or using Accused Products. On information and belief, Defendant possesses knowledge of, and is aware of, the '050 Patent, or became aware of this Patent at the time of filing this lawsuit. A non-limiting and exemplary claim chart comparing an Accused

Product (the Butterfly Hard Case) to Claims 1, 5, 7, 9, 10, and 12 of the '050 Patent is attached hereto as Exhibit N.

153. On information and belief, Defendant possesses knowledge of, and is aware of, the '050 Patent, or became aware of this Patent at the time of filing this lawsuit.

154. By engaging in the conduct described herein, Defendant has injured FUJIFILM Sonosite and is thus liable for infringement of the '050 Patent, pursuant to 35 U.S.C. § 271.

155. Defendant has committed these acts of infringement without license or authorization.

156. As a result of Defendant's infringement of the '050 Patent, Plaintiff has been, and will continue to be, damaged and will suffer irreparable injury unless the infringement is enjoined by this Court pursuant to 35 U.S.C. § 283 and/or the equitable powers of this Court.

157. As a result of Defendant's infringement of the '050 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

158. Upon information and belief, Defendant has known of the '050 Patent at a date prior to the filing of this Complaint, and has known of the '050 Patent at least upon the filing of this Complaint. Despite such knowledge, Defendant has continued its infringing activities. Upon information and belief, Defendant's infringement of the '050 Patent is willful, entitling Plaintiff to enhanced damages pursuant to 35 U.S.C. § 284. This action is therefore exceptional within the meaning of 35 U.S.C. § 285, entitling Plaintiff to its attorneys' fees and expenses.

159. FUJIFILM Sonosite is in compliance with 35 U.S.C. § 287.

DEMAND FOR JURY TRIAL

160. Plaintiff demands a trial by jury of any and all causes of action.

PRAYER FOR RELIEF

161. WHEREFORE, Plaintiff prays for the following relief:

162. That Defendant be adjudged to have directly infringed the patents-in-suit either literally or under the doctrine of equivalents, and to have indirectly infringed the patents-in-suit by inducement and contributory infringement;

a. Entry of a preliminary and/or permanent injunction against Defendant pursuant to 35 U.S.C. § 283 and/or the equitable powers of the Court to prevent further infringement of the patents-in-suit;

b. An award of damages to Plaintiff and against Defendant pursuant to 35 U.S.C. § 284 sufficient to compensate Plaintiff for the Defendant's past infringement and any continuing or future infringement, including compensatory damages, lost profits, and/or a reasonable royalty;

c. A declaration that Defendant's infringement is willful and an award of enhanced damages, the form of treble damages, pursuant to 35 U.S.C. § 284;

d. An accounting of all infringing sales and damages including, but not limited to, those sales and damages not presented at trial;

e. An assessment of pre-judgment and post-judgment interest and costs against Defendant, together with an award of such interest and costs, in accordance with 35 U.S.C. § 284;

f. That Defendant be directed to pay enhanced damages, including Plaintiff's attorneys' fees incurred in connection with this lawsuit pursuant to 35 U.S.C. § 285; and

g. That Plaintiff be granted such other and further relief as this Court may deem just and proper.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Jeremy A. Tigan

OF COUNSEL:

Robert L. Maier
Jennifer C. Tempesta
Margaret M. Welsh
Pallavi Mathur
BAKER BOTTs L.L.P.
30 Rockefeller Plaza
New York, NY 10112
(212) 408-2500

Jeremy A. Tigan (#5239)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jtigan@morrisnichols.com

Attorneys for Plaintiff FUJIFILM Sonosite, Inc.

Alexander T. Piala
BAKER BOTTs L.L.P.
98 San Jacinto Blvd., Suite 1500
Austin, TX 78701
(512) 322-2546

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